

ABSTRACT

**IMMUNOGENIC HIV-1 MULTI-CLADE, MULTIVALENT
CONSTRUCTS AND METHODS OF THEIR USE**

5

Described herein are nucleic acid molecules which encode multiple highly conserved epitopes from HIV-1 proteins, and optionally also epitopes from CCR5; usually also included sequences that encode spacers between two or more of the epitopes. Some of the provided nucleic acid molecules further include sequences that encode targeting domains, useful for targeting the encoded protein into a pathway for enhancing epitope presentation in a vertebrate immune system. Also described are multivalent proteins encoded for by these nucleic acid molecules. The disclosure also encompasses immunogenic compositions that comprise one or more of the nucleic acid molecules, and/or one or more of the proteins encoded thereby, as well as methods of inducing an immune response against HIV-1 in a subject by administering to the subject an effective amount of a composition containing one or more of these molecules. Also provided are cultured host cells containing within them one or more of the described nucleic acid molecules.